

Why Explore Space?

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As NASA resumes flights of the space shuttle to finish building the International Space Station, many are questioning whether the project – the most complex construction feat ever undertaken – is worth the risk and expense.

I have been asked, and asked myself, this question many times during my career, particularly when the United States lacked a plan to go beyond the space station to other destinations in the solar system.

The issue was addressed eloquently in the report of the Columbia Accident Investigation Board, which examined the 2003 loss of the shuttle and its crew. That report pointed out that for the foreseeable future, space travel is going to be expensive, difficult and dangerous. But, for the United States, it is strategic. It is part of what makes us a great nation. And the report declared that if we are going to send humans into space, the goals ought to be worthy of the cost, the risk and the difficulty. A human spaceflight program with no plan to send people anywhere beyond the orbiting space station certainly did not meet that standard.

President Bush responded to the Columbia report. The administration looked at where we had been in space and concluded that we needed to do more, to go further. The result was the Vision for Space Exploration, announced nearly three years ago, which commits the United States to using the shuttle to complete the space station, then retiring the shuttle and building a new generation of spacecraft to venture out into the solar system. Congress has ratified that position with an overwhelming bipartisan majority, making the Vision for Space Exploration the law of the land.

Today, NASA is moving forward with a new focus for the manned space program: to go out beyond Earth orbit for purposes of human exploration and scientific discovery. And the International Space Station is now a stepping stone on the way, rather than being the end of the line.

On the space station, we will learn how to live and work in space. We will learn how to build hardware that can survive and function for the years required to make the round-trip voyage from Earth to Mars.

If humans are indeed going to go to Mars, if we're going to go beyond, we have to learn how to live on other planetary surfaces, to use what we find there and bend it to our will, just as the Pilgrims did when they came to what is now New England – where half of

them died during that first frigid winter in 1620. There was a reason their celebration was called “Thanksgiving.”

The Pilgrims were only a few thousand miles from home, and they were accomplished farmers and artisans. And yet, when they came to an unfamiliar land, they didn’t know how to survive in its harsh environment. They didn’t know what food would grow and what wouldn’t. They didn’t know what they could eat and what they couldn’t.

The Pilgrims had to learn to survive in a strange new place across a vast ocean. If we are to become a spacefaring nation, the next generation of explorers is going to have to learn how to survive in other forbidding, faraway places across the vastness of space. The moon is a crucially important stepping stone along that path – an alien world, yet one that is only a three-day journey from Earth.

Using the space station and building an outpost on the moon to prepare for the trip to Mars are critical milestones in America’s quest to become a truly spacefaring nation. I think that we should want that. I want that. I want it for the American people, for my grandchildren, for my great-grandchildren.

Throughout history, the great nations have been the ones at the forefront of the frontiers of their time. Britain became great in the 17th century through its exploration and mastery of the seas. America’s greatness in the 20th century stemmed largely from its mastery of the air. For the next generations, the frontier will be space.

Other countries will explore the cosmos, whether the United States does or not. And those will be Earth’s great nations in the years and centuries to come. I believe America should look to its future – and consider what that future will look like if we choose *not* to be a spacefaring nation.

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